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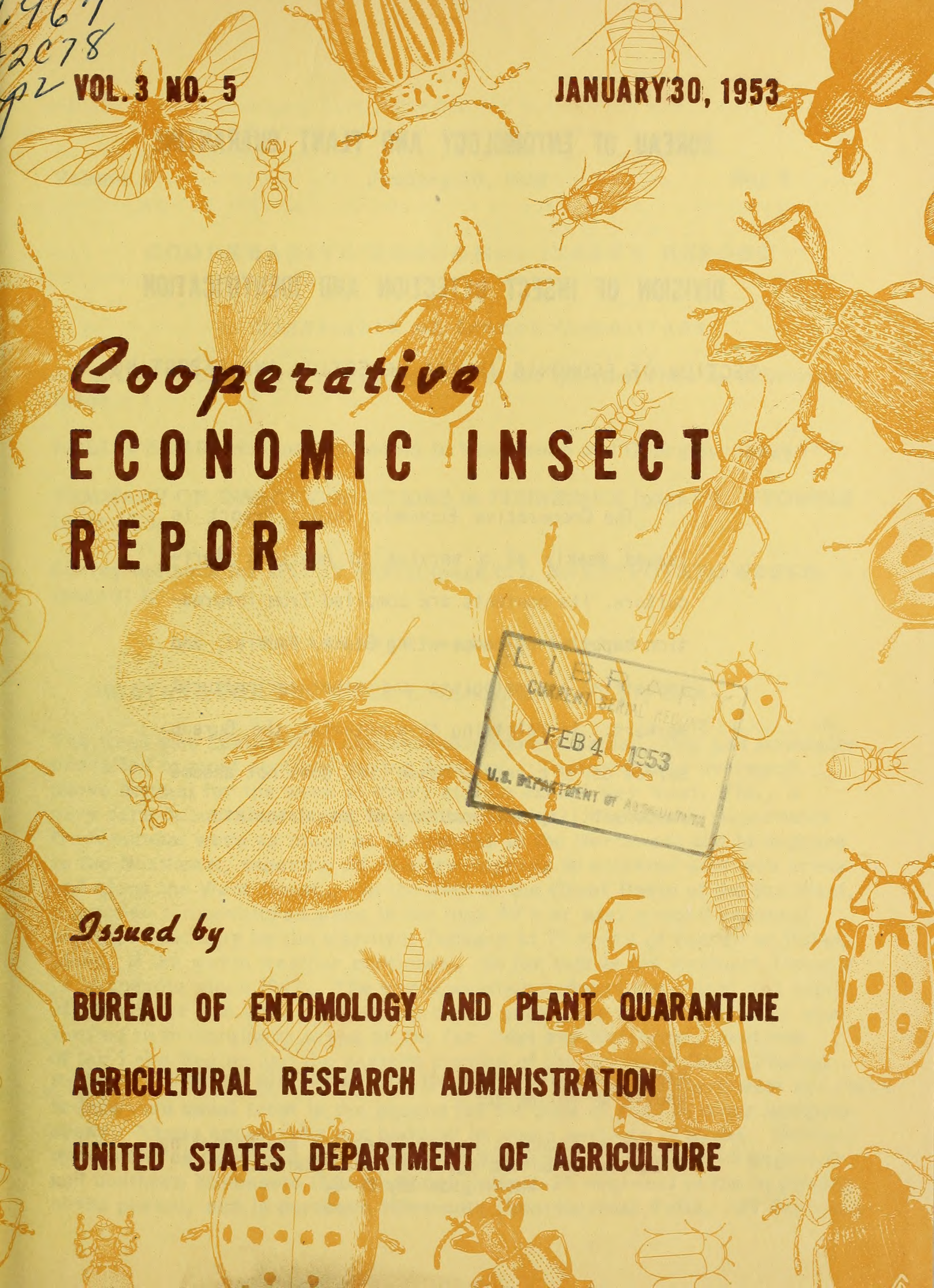

Cooperative ECONOMIC INSECT REPORT

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DIVISION OF INSECT DETECTION AND IDENTIFICATION

SECTION OF ECONOMIC INSECT DETECTION AND REPORTING

The Cooperative Economic Insect Report is issued weekly as a service to American Agriculture. Its contents are compiled from information supplied by cooperating State, Federal, and industrial entomologists and other agricultural workers. In releasing this material the Bureau serves as a clearing house and does not assume responsibility for accuracy of the material.

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Volume 3 January 30, 1953 No. 5

COOPERATIVE ECONOMIC INSECT REPORT

Highlights of Insect Conditions

AN EARWIG (*Labiduria riparia*) collected for the first time in California. (page 61).

BOLL WEEVIL hibernation counts in Tennessee and Georgia. (page 62).

SUMMARY OF INSECT CONDITIONS in TENNESSEE (page 65), WYOMING (page 67).

Survey methods for GYPSY MOTH (page 70), SWEETPOTATO WEEVIL (page 71).

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WEATHER FOR THE WEEK ENDING JANUARY 27, 1953

The week was featured by unseasonably warm weather, that had generally prevailed in most sections during January. Temperatures averaged above normal for the week at every station except Key West, Fla., a very rare occurrence during the winter season. The weekly departures from normal were as much as 18 degrees in the Northwest and 13 degrees in the Northeast, tapering off to a few degrees in extreme southern areas and along the West Coast. On the 25th in the Great Basin of the far West, maximum temperatures were in the high 50's or near record seasonal levels. This may be the warmest January in 77 years of record at Boise, Idaho, if the warm weather continues. So far this is the warmest January in Minnesota since 1947. The warm weather reduced the extent and depth of snowcover and until the last day of the period the remaining cover was limited to mountainous areas or the far West and Northeast, sections of the Lake Region and the eastern portion of the northern Great Plains. Frost is out of the ground at low elevations in the Pacific Northwest and there is less than usual frost in the ground for the time of year in other northern areas. Trees and shrubs are budding in some sections of Idaho. Subzero temperatures occurred only in eastern North Dakota (Fargo, -9 degrees) and northern Minnesota (International Falls, -26 degrees) at the beginning of the period, and in northern Minnesota (International Falls, -27 degrees) and extreme upper portions of the Lake Region (Houghton, Mich., -12 degrees) at the end. A sharp cold spell occurred in the lower Great Plains on the 24th when minimum temperatures fell to the high 30's and low 40's in southernTexas, and in the Midwest and East at the end of the period when freezing occurred as far south as northern Florida. The ground is frozen to a depth of 20 inches in Central Iowa.

Frequent light to moderate to occasionally heavy rains, along the North Pacific Coast, coming after heavy rains of the previous week, caused considerable flooding north of Eureka, Calif. Heavy damage was reported from western Oregon. Precipitation was also frequent in all northern areas but was rather light and weekly totals generally amounted to only a few hundreths. Precipitation was generally less than a quarter of an inch in the Rocky Mountain Region and Great Plains with little or none in the Southwest. General precipitation occurred east of the Mississippi at the beginning of the period and again from the 23d through the 25th. Weekly totals exceeded an inch south of the Ohio River and in Atlantic coastal areas from northern Florida to southern New England. On the 25th a light snowfall occurred over the Northeast. A snowstorm at the end of the period recovered much of the ground that had become bare in the western portion of the northern Great Plains. (Summary Supplied by U. S. Weather Bureau).

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CEREAL AND FORAGE INSECTS

GREENBUG (Toxoptera graminum) - SOUTH CAROLINA - Continues moderately abundant in many grain fields in Charleston area. (Cuthbert and Deen).

FRUIT INSECTS

CALIFORNIA - Heavy infestations of EUROPEAN FRUIT LECANIUM (Lecanium corni) and BLACK SCALE (Saissetia oleae) on 44,000 acres of prune, 16,000 acres of apricot and 2,600 acres of cherry orchards in Santa Clara County. OLIVE SCALE (Parlatoria oleae) heavy on pear and peach at Lincoln in Placer County. Infestations in Kern County deciduous fruit orchards. Medium infestations of ITALIAN PEAR SCALE (Epidiaspis piricola) on 20,000 acres of prune orchards and 4,000 acres of English walnuts in Santa Clara County. Heavy infestations of WOOLLY APPLE APHID (Eriosoma lanigerum) on some varieties of apple in Humboldt County. (S. Lockwood, Rept. for last half of Dec.)

Citrus Insect Conditions

CALIFORNIA (Report for last half of December) - Medium to heavy CITRUS RUST MITE (Phyllocoptruta oleivora) damage in San Diego County. Heavy infestations of CITRUS RED MITE (Metatetranychus citri) in some Orange County groves. Light to heavy infestations in San Berrardino County. Medium ot heavy infestations of BLACK SCALE (Saissetia oleae) in orange groves in Santa Barbara County; spotted infestations in lemon groves. Some medium infestations in Orange County. Some severe infestations of CITRICOLA SCALE (Coccus pseudomagnoliarum) in Tulare County SOFT BROWN SCALE (Coccus hesperidum) light to severe in Tulare County. CALIFORNIA RED SCALE (Aonidiella aurantii) light to medium in lemon groves in Santa Barbara County; some severe but local infestations in Tulare County; some heavy in San Bernardino County. PURPLE SCALE (Lepidosaphes beckii) medium to heavy in Santa Barbara County orange groves. YELLOW SCALE (Aonidiella citrinia) light to severe in Tulare County; light to medium in Glenn County. (S. Lockwood)

FLORIDA (Report for 2nd week in January) - Ninety-three percent of groves checked infested with PURPLE SCALE. Highest activity in Upper East Coast and West Coast Districts. Fifty-two percent of groves infested with FLORIDA RED SCALE (Chrysomphalus aonidum). Activity declining and further reduction expected. Highest activity in Indian River and Ridge Districts. CITRUS RED MITE found in 56 percent of groves. Activity continues to decline; and increase, however, in Ridge and Bartow Districts. CITRUS RUST MITE activity declined on leaves, unchanged on fruit. Still high on leaves, but further reduction expected. Highest (leaves and fruit) in Bartow, Gainesville and West Coast Districts. Seventy-six percent of groves infested. (Pratt and Thompson).

TRUCK CROP INSECTS

AN EARWIG (Labiduria riparia) - CALIFORNIA - First collection of this earwig in California was made at Calexico, November 21, 1952. This is an Eurasian species which has been extending its range in the West during the past few years. (H. H. Keifer)

APHIDS (Aphidae) - TENNESSEE - Unidentified species attacking cole crops that are still producing in east Tennessee. (R. P. Mullett). VIRGINIA -

Cabbage aphid (Brevicoryne brassicae) persists on most untreated on inadequately treated winter crucifers in eastern area. (Brubaker, Greenwood, Hofmaster). SOUTH CAROLINA - Cabbage plant beds and recently transplanted fields of winter-spring cabbage show light and scattered populations of cabbage aphid in Charleston area. Green peach aphid (Myzus persicae) infestations light on young cabbage; moderate to heavy on spinach. Turnip aphid (Rhopalosiphum pseudobrassicae) moderate on mustard and turnip grown for greens. (Cuthbert and Deen).

VEGETABLE WEEVIL (Listroderes constirostris obliquus) - FLORIDA Unusually abundant on turnips, Chinese cabbage and other winter crucifers in Gadsden County area. Also report harmfully abundant on turnips in Walton and Jefferson Counties. (L. M. May). GEORGIA - First and second instar larvae feeding on tobacco leaves in Cook County, January 9. (C. R. Jordan). SOUTH CAROLINA - Causing slight injury to turnip and spinach, Charleston area. (Cuthbert and Deen). VIRGINIA - One planting of mustard in eastern area infested with larvae, fresh feeding injury apparent. (Brubaker, Greenwood, Hofmaster).

CUTWORMS (Phalaenidae) - SOUTH CAROLINA - Damage severe enough in one field of beets in Charleston area to necessitate replanting. Very light damage to spinach. (Cuthbert and Deen).

COTTON INSECTS

Hibernating Boll Weevil Survey

TENNESSEE - Survey to determine the number of boll weevils in hibernation around cotton fields was conducted from October 28 to December 5, 1952. McNairy County was chosen for the work because it was heavily infested with boll weevils during the past growing season and because of the large amount of cotton grown in the county. Also, weevil emergence from hibernation has occurred first in McNairy County for the past two springs. Ninety-five samples (5 per field) were collected from trash, ground litter and the top inch of soil in 19 fields scattered over the county. Examination of the samples showed an average of 2,260 live boll weevils per acre for the 19 fields. No weevils were found in 1 field. Highest number found from a single field was 8,090 per acre. These results indicate a large number of weevils in hibernation in this area this winter. (A. P. Morris).

GEORGIA - Fall examinations of surface trash from woods adjacent to old cotton fields, to determine the number of boll weevils entering hibernation, have been completed in four regions in Georgia. The average for the State was 1,346 live weevils per acre of surface trash. This compares with 852 weevils last year. The averages for the different areas where samples were taken were as follows: northwest (Gordon County) 3,291; north central (Spalding County) 1,331; east central (Burke County) 726; and south (Tift County) 48. A total of 10 samples or 180 square feet were taken from each of 25 farms from November 24 to December 30. Live weevils were found on 21 farms or 34 percent of the farms examined. Although the counts were variable between farms, the northwest Georgia samples were consistently high. This is probably related to moisture conditions last season and the fact that much cotton in the northern part of the State put on new growth following August rains. Weevils were found at the rate of 4,598 per acre on one farm. This is a preliminary survey. Samples from the same farms will be examined during the spring to determine the winter survival of weevils. (C. M. Beckham & M. Dupree).

FOREST INSECTS

BLACK TURPENTINE BEETLE (Dendroctonus terebrans) - Twenty-five adults taken from 2 dying pine trees in Jasper County, MISSISSIPPI January 15. (R. E. Hutchins).

Recent Important Interceptions at Ports of Entry

Living insects intercepted recently in mail from foreign countries included the following:

A larva of Laspeyresia nr. or = strobilella (L.), the so-called spruce cone moth, in a Norway spruce cone from Germany at Boston (M. F. Crowell). This insect is said to attack the seeds and cones of spruce in northern Europe and the British Isles, occasionally causing serious injury.

Larvae of the Asiatic rice borer, Chilo simplex (Btlr.), in rice straw from the Orient (in A.P.O. mail--exact origin unknown) at Memphis (J. T. Bigham). This borer is considered a serious pest of rice, sugarcane, corn, sorghum, and millet in the Far East. It has been introduced into Hawaii and Spain.

An adult weevil, Anthonomus rectirostris (L.) in Prunus lannesiana seed from Japan at San Francisco (Thompson). This weevil has been reported injurious to cherries in Switzerland, Germany, Sweden, and other parts of Europe. The larvae feed inside the seeds, and the adults feed on and oviposit in the fruit.

Larvae and pupae of a species of Tephritidae, probably Rhagoletis sp., in Crataegus monogyne, from Turkey at Washington (O. K. Courtney). The exact identity of this insect is unknown, but the probability that it belongs to the genus Rhagoletis indicates that it may be a foreign pest.

None of the above insects are known to occur in the continental United States.

SUMMARY OF INSECT CONDITIONS - 1952

TENNESSEE

Reported by R. P. Mullett,
W. W. Stanley, A. P. Morris

Cereal and Forage Insects: First-generation EUROPEAN CORN BORER (Pyrausta nubilalis) was of little consequence as corn was very small during the peak of flight in early June. The second generation, although light, caused occasional heavy mechanical damage to corn. This was brought on principally by the poor condition of corn due to severe drought. Large numbers of CORN EARWORM (Heliothis armigera) occurred throughout the season in corn crops scattered throughout the State. Also damaged soybean pods over most of the State. GREENBUG (Toxoptera graminum) and SUGARCANE APHID damaged grain and grass crops in scattered fields throughout eastern and middle Tennessee during spring. ARMYWORM (Pseudoletia unipuncta) infested approximately 20,000 acres of small grain and pasture fields throughout middle and western Tennessee. The most serious infestations in legumes were caused by GREEN CLOVERWORM (Plathypena scabra) and VELVET-BEAN CATERPILLAR (Anticarsia gemmatilis). These infestations occurred in soybeans in late summer over all the State, with green cloverworm predominating. BEAN LEAF BEETLE (Cerotoma trifurcata) also heavily attacked soybeans in late summer in extreme western areas. VETCH BRUCHID (Bruchus brachialis) caused serious seed loss in south-central areas. Large numbers of BLISTER BEETLES (Epicauta spp.) attacked alfalfa in scattered fields throughout the State. A few scattered fields of alfalfa in eastern areas were heavily infested with FALL ARMYWORM (Laphygma frugiperda). This insect also attacked buds of late corn in scattered infestations, but caused little damage. SORGHUM WEBWORM (Celama sorghiella) and CORN EARWORM caused heavy damage to scattered fields of sorghum in south-central areas. ANGOUMOIS GRAIN MOTH (Sitotroga cerealella) and RICE WEEVIL (Sitophilus oryza) were observed in corn in the field, but apparently caused little damage.

Fruit Insects: PLUM CURCULIO (Conotrachelus nenuphar) and ORIENTAL FRUIT MOTH (Grapholitha molesta) were at a low ebb during apple and peach harvesting season. A heavy outbreak of CODLING MOTH (*Carpocapsa pomonella*) occurred in apple orchards late in the summer over the State. Scattered infestations of SHOT-HOLE BORER (*Scolytus rugulosus*) in fruit trees occurred in local areas throughout the State.

Vegetable Insects: The common vegetable insects were present during the most of the summer in normal numbers except MEXICAN BEAN BEETLE (*Epilachna varivestis*), which during the hot weather was reduced to a minimum; however, in cooler mountainous areas this insect persisted in considerable numbers. BLISTER BEETLES (*Epicauta* spp.) were among the worst pests of gardens throughout the summer over the State. POTATO LEAFHOPPER (*Empoasca fabae*) caused damage to commercial beans in central and eastern areas. HARLEQUIN BUG (*Murgantia histrionica*) heavily infested cole crops in late summer in eastern and middle Tennessee.

Tobacco Insects: APHID damage was negligible. VEGETABLE WEEVIL (*Listroderes costirostris obliquus*) attacked an occasional tobacco bed in eastern and middle Tennessee, but damage was slight. HORNWORMS (*Protoparce* spp.) were generally present and caused fairly heavy damage to scattered fields throughout eastern and middle areas.

Cotton Insects: Damage to cotton by insects during 1952 was not serious. Some control measures were needed, but these were much less than during the two preceding seasons. Early growth of young cotton in the western area was retarded by THRIPS, APHIDS, and FLEABEETLES (species undetermined) in practically all fields. Extremely dry weather kept BOLL WEEVIL (*Anthonomus grandis*) under control most of the summer except for an occasional field where showers occurred. At the end of the season after rains, weevils built up in enormous numbers in the two southern tiers of counties in western third of the State. Many fields suffered heavy damage. Damage by boll weevil in western area was 17 percent from June 16 to September 6. (See page 62 for hibernation counts). BOLLWORMS (*Heliothis* spp. et al) caused little damage. SPIDER MITES damage, in general, was confined to small patches in scattered fields throughout the cotton growing area. *Tetranychus canadensis* was recorded for the first time on cotton in Tennessee in Henry County. (This species was also collected on cotton in Mississippi for the first time according to available files, in 1952. Collections were made in Coahoma County. (ed. note))COTTON LEAFWORM (Alabama argillacea) appeared in cotton late in the season but caused little damage.

Forest and Shade Tree Insects: Large numbers of ELM LEAF BEETLE (Gallerucella xanthomelaena) caused considerable defoliation of elms throughout the entire State, as did LOCUST LEAF MINER(Chalepus dorsalis) to locust trees. MIMOSA WEBWORM (Homadaula albizziae) caused considerable defoliation of mimosa trees in the eastern part of the State where the tree is mainly grown.

Insects Affecting Man and Animals: BUFFALO GNATS (Simuliidae) were particularly annoying to livestock in early spring along the Mississippi River. Three or four calves were reported killed. HORSE FLIES (Tabanidae) were particularly heavy in a few local areas in eastern Tennessee. HORN FLY (Siphona irritans) and STABLE FLY (Stomxys calcitrans) were abundant over most of the State. Several bait worm ranches were infested with RING-LEGGED EARWIG (Euborellia annulipes) and a MITE (Uropoda agitans), necessitating vigorous and prompt control measures. Large numbers of FLEAS built up in barns, outbuildings and in yards in eastern and middle Tennessee during the year.

General Feeders: GRASSHOPPERS (Acrididae) were widespread and troublesome pests throughout the summer over the State. All sorts of crops were attacked including tobacco, corn, vegetable gardens, cotton and pasture crops. This situation was apparently due to the drouth which dried up normal food supplies causing the grasshoppers to concentrate on cultivated crops.

WYOMING

Reported by G. B. Harston H. S. Beaudoin	Assisted by Ext. Service, County Pest Control Supervisors, Assoc. of Wyo. Entomologists, B.E.P.Q.

Cereal and Forage Insects: Alfalfa became heavily infested with ALFALFA WEEVIL (Hypera postica), TARNISHED PLANT BUG (Lygus lineolaris), and had lighter infestations of CLOVER SEED CHALCID (Bruchophagus gibbus). Forage alfalfa was constantly infested with ALFALFA WEEVIL, PEA APHID (Macrosiphum pisi) and GRASSHOPPERS (Acrididae). SAY STINK BUG (Chlorochroa sayi) increased to infestation proportions in Converse, Park, Big Horn, Washakie, Fremont, Platte, Albany, Laramie and Goshen Counties. Sweetclover became infested by SWEETCLOVER WEEVIL (Sitona cylindricollis). Red clover in Park County (Powell area) was infested in 1952 by LESSER CLOVER LEAF WEEVIL (Hypera nigrirostris). The only specimen of this insect formerly found in Wyoming was in 1951 (Lincoln County, near Freedom). SPIDER MITES (Tetranychidae) were of less concern in 1952 than in 1951. WHEAT STEM MAGGOT (Meromyza americana) was reported infesting wheat in Goshen County. WHEAT STEM SAWFLY (Cephus cinctus) was reported in Fort Laramie. MORMON CRICKET (Anabrus simplex) has been on the increase in several Wyoming counties for the past three years. Control was initiated in a few localities but additional control is expected in 1953, especially in the Lincoln County area and possibly in Park and Big Horn Counties. GRASSHOPPER situation in 1952 showed that the only control areas were United States lands located on Big Horn Mountains and South Fork of Shoshone River. Estimates for next season's hatch shows a light infestation in spotted areas.

Vegetable and Truck Crop Insects: MEXICAN BEAN BEETLE (Epilachna varivestis) was observed at Laramie and Wheatland. This pest has not made any noticeable increase in number during the past year. POTATO PSYLLID (Paratrioza cockerelli) was observed in eastern Wyoming, though numbers of this insect remained very low in the State, at least through August. POTATO LEAFHOPPER (Empoasca fabae) populations remained low on dryland potatoes in Laramie County. TUBER FLEA BEETLE (Epitrix tuberis) was very abundant throughout August, particularly noticeable on early potatoes in Goshen County. COLORADO POTATO BEETLE (Leptinotarsa decemlineata) infestations in Park County were very light. Infested areas, Garland and Willwood near Powell, were watched for increases, but no increase over 1951 population observed. Peas grown in the Heart Mountain area, Park County, were infested with PEA APHID to about the same extent as in 1951. The biennial survey for GOLDEN NEMATODE (Heterodera rostochiensis) was made in all of the potato areas. A laboratory analysis report showed that Wyoming is free of this pest.

Oranmental and Shade Tree Insects: EUROPEAN ELM SCALE (Gossyparia spuria) has noticeably increased in the Powell, Douglas and Cheyenne areas. Control is being undertaken this winter. AN ASH PLANT BUG (Neoborus sp.) caused noticeable damage to ash trees in the Powell area. LEPIDOPTEROUS LARVAE (Gelechiidae), probably Recurvaria sp., was found infesting terminal leaves of juniper, also in the Powell area. Light infestation of PINE NEEDLE SCALE (Phenacaspis pinifoliae) was found in Rock Springs and Powell.

Insects Affecting Man and Animals: COMMON CATTLE GRUB (Heel fly), Hypoderma lineatum, was common in all cattle areas of the State. Constant control is attempted by ranchers and stockmen. HOUSE FLY (Musca domestica) was noticed to be more resistant to DDT than in previous years. In most cities and towns using fly control measures, a rotation of chemicals was used instead of a single chemical. Results have indicated much greater control. HONEY BEES (Apis mellifera) were infested with less American foul brood (Bacillus larvae) than in 1951 according to inspection reports.

SURVEY METHODS

GYPSY MOTH (Porthetria dispar)

In determining the specific location, size and extent of gypsy moth infestations trapping and scouting surveys are annually conducted. Trapping surveys involve the use of sex attractant which is obtained by clipping the last two segments of the abdomen of adult virgin female gypsy moths into benzol to extract the attractant from the sex glands. At the 15-tip strength, traps attract male moths for distances up to 1/2 mile. The traps are placed in the field late in June or early in July and are visited approximately once each week during the entire flight season to freshen the tanglefoot placed on wax paper within the metal cylinder by combing and to remove moths that may have entered the trap and become lodged on the tanglefoot. Where the gridiron method is employed parallel lines are run through the forested areas by the use of a compass and the traps are normally placed at 7/8 mile intervals. In trapping along roadsides traps are placed one mile apart. This method of surveying extensive areas commenced in a largescale way in the summer of 1942 when a total of 7,282 traps were used in surveying 2,950,000 acres. Approximately twice this acreage was surveyed the following year and in the summer of 1950, 19,608 traps were used in surveying more than 7,193,600 acres.

Plans for scouting are principally based on the results of the trapping program and in general, surveys of this nature are confined to an examination of territory within 1/2 mile of the attracting trap. However, some scouting is annually conducted in areas where traps are not used because infestation is known to be present. Such surveys are conducted so as to delimit the areas infested, determine the intensity of infestation, and hazard of spread of the gypsy moth by wind or common carriers.

Data obtained from the scouting surveys is used in setting up the spraying program on a priority basis to insure early treatment of those areas where the hazard of spread is greatest. (J. M. Corliss)

SWEETPOTATO WEEVIL - (Cylas formicarius elegantulus)

Surveys are made to determine the presence and extent of sweetpotato weevil infestations. The methods consist of visual inspection of sweetpotatoes that are usually found in one or more of the following locations:

1. Post harvest crop remnants, including crowns and vines, left in fields.
2. Storages, packing sheds and processing plants.
3. Plant beds and mother rows after abandonment by growers.

Primary inspection consists of the examination of the surface of sweetpotatoes for weevil emergence holes, egg, and feeding punctures, and if found, potatoes are dissected for possible recovery of specimens, of which immature stages predominate. The effectiveness of inspection in relation to location may be considered as 1, 2, 3, as listed above, but weevil population abundance usually occurs about October in the principal sweetpotato growing states. (M. S. Yeomans)